CPS ATB Commitment Loss of Propulsion Investigation Report

Incident: CPS ATB Commitment Loss of Propulsion

Date and Time of Incident: July 28, 2010 12:24

Date and Time Investigation Started July 28, 2010 18:00

Notifications: Crowley Petroleum Services Management.
(See Notification Protocol below)

Incident Classification: Shutdown of Electrical Generator Engine
(Shutting down propulsion ancillary machinery)

Vessel and Location: Commitment / 650-6; Straits of Juan de Fuca, Washington State Waters 48-16.9 N / 123-47.6W

Initiating Event:
The Vessel's main generator's shutdown due to water in the fuel system. This event then shut down the main engine ancillary machinery shutting down main engines.

Incident Description:
On Wednesday Morning at 00:31 the vessel began taking bunkers from a fuel barge in Port Angeles, WA. After completion of the fuel transfer at 08:25 the vessel departed Port Angles, WA for Portland, OR at 10:12. At approximately 12:20 the low fuel pressure alarm sounded on the starboard generator engine which was on line. The generator engine then shut down on its own. The Vessel maintained emergency power on the emergency diesel generator which had started automatically on loss of electrical power from the Stbd Generator. Loss of electrical inputs to Main Engines and fuel system caused the main engines to shut down. The port generator started and later was shut down before additional water went through the fuel system. The vessel's main generator fuel supply system took water in the fuel lines to the port and starboard generators causing loss of electrical power available on the vessels main electrical buss.

When the starboard generator shut down there was loss of main propulsion since the main engine was operating on Heavy Fuel Oil (HFO). The emergency diesel generator (EDG) cannot support the electrical load demands of the Fuel conditioning module.

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Initial Conditions:
Weather conditions at the time of the incident were: Seas calm, skies overcast, wind SSW @ 10, temperature 64 F and 10 mile visibility.

Vessel History:
The building of the Articulated Tug and Barge Commitment / 650-6 was completed in Pascagoula Mississippi in early 2009. The unit was commissioned immediately upon delivery in April, she successfully carried product from Texas City to Charleston and Wilmington on her first voyage before sailing for the West Coast to its pre-designated trading route.

While on the West Coast the Commitment / 650-6 has transported product from Washington to Vancouver British Columbia and the Los Angeles/Long Beach and all the major ports in-between (Seattle, Portland, San Francisco). Prior to this loss of power event the Commitment / 650-6 has provided safe and reliable petroleum transportation services for the customer. She has completed 80 transfers, moving over 9 million barrels of product without a drop spilled to the environment.

Findings:
At approximately 12:17 on Wednesday July 28, 2010 The Chief Engineer was in the engine room making rounds and heard a low fuel pressure alarm sounding for the starboard generator. He observed the RPM's fluctuating on the starboard generator engine. He visually identified water in the fuel filter housing and immediately started the port generator, attempting to transfer the load by paralleling the generators (port and stbd). The C/E was not able to parallel generators, due to the RPM fluctuation of the starboard generator. The starboard generator shutdown, due to water in the fuel system, this in turn caused the Emergency Diesel Generator (EDG) to start automatically and assume the load of the emergency buss. The C/E went up to the EDG and opened the Under Voltage Breaker and closed it again. He then shut down the emergency diesel generator which would allow full power distribution (both main and emergency buss) to be picked up by the port generator when placed on line on the main board. The C/E went back down to the engine room. Upon his arrival, the port generator immediately shut down due to water in the fuel. The C/E then went back up to the emergency diesel generator and restarted the engine placing it back on the emergency buss. As a result of the main generator shutdown, the main propulsion ancillary machinery (Fuel Conditioning Module, FCM) lost power and main engines shut down due to loss of fuel supply.

Contributing Factors:
- Initial fuel samples received from the bunker barge did not initially indicate water in the sample. Following the incident multiple point sampling was conducted. Samples were sent to a testing facility where water content was confirmed.
- Initial investigative findings show that fuel transfer procedures and personnel familiarity may need improvements to prevent the transfer of water in the quantity present to the service tanks.

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Notification Protocol Timeline:

1220 Crowley dispatch called for assist tug
1225 VTS Notified by VHF
1230 Operations and Chartering Notified by phone
1234 USCG Notified by phone - as per request from VTS
1245 Tug Valor dispatched from Anacortes
1305 WA State of Department of Ecology notified (by CPS Operations)
1307 Tug Jeffery Foss u/w from Neah Bay
1320 COTP Seattle notified (by CPS Operations)
1536 Tug Jeffrey Foss on station
1600 Vessel u/w under own power w/tug in escort
1824 Arrive at PA Pilot station and board Pilot
1912 Anchored
1918 Tug and Pilot released

Immediate Corrective Action:

- ✓ The Master immediately initiated the notification procedures and protocols.
- ✓ CPS operations dispatched the Crowley tug Valor from Anacortes and activated the State Of Washington, Neah Bay rescue tug Jeffery Foss.
- ✓ The Vessel Engineers removed filters and bled off water until clear fuel was showing. Vessel was able to restart port generator set and both main engines and proceeded to Port Angeles Anchorage under its own power.

Additional Corrective Actions:

- Company wide Safety Alert to highlight this particular event. A fleet notification has been sent out identifying this incident and includes reinforcement of the need to bottom drain fuel tanks.
- Operations and Engineering will discuss a risk assessment to evaluate the procedures and training to see if improvements are needed to the transfer procedures and personnel awareness for this vessel classification.

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Causal Factor: *Any problem associated with the incident that, if corrected, would have prevented the incident from occurring or would have significantly mitigated its consequences.*

Root Cause: *The most basic cause that can be reasonably identified that management has control to fix, and when fixed, will prevent (or significantly reduce the likelihood of) the problem's recurrence.*

Corrective Action: *The action taken or to be taken to correct deficiencies (root causes) or prevent the incident from occurring again.*

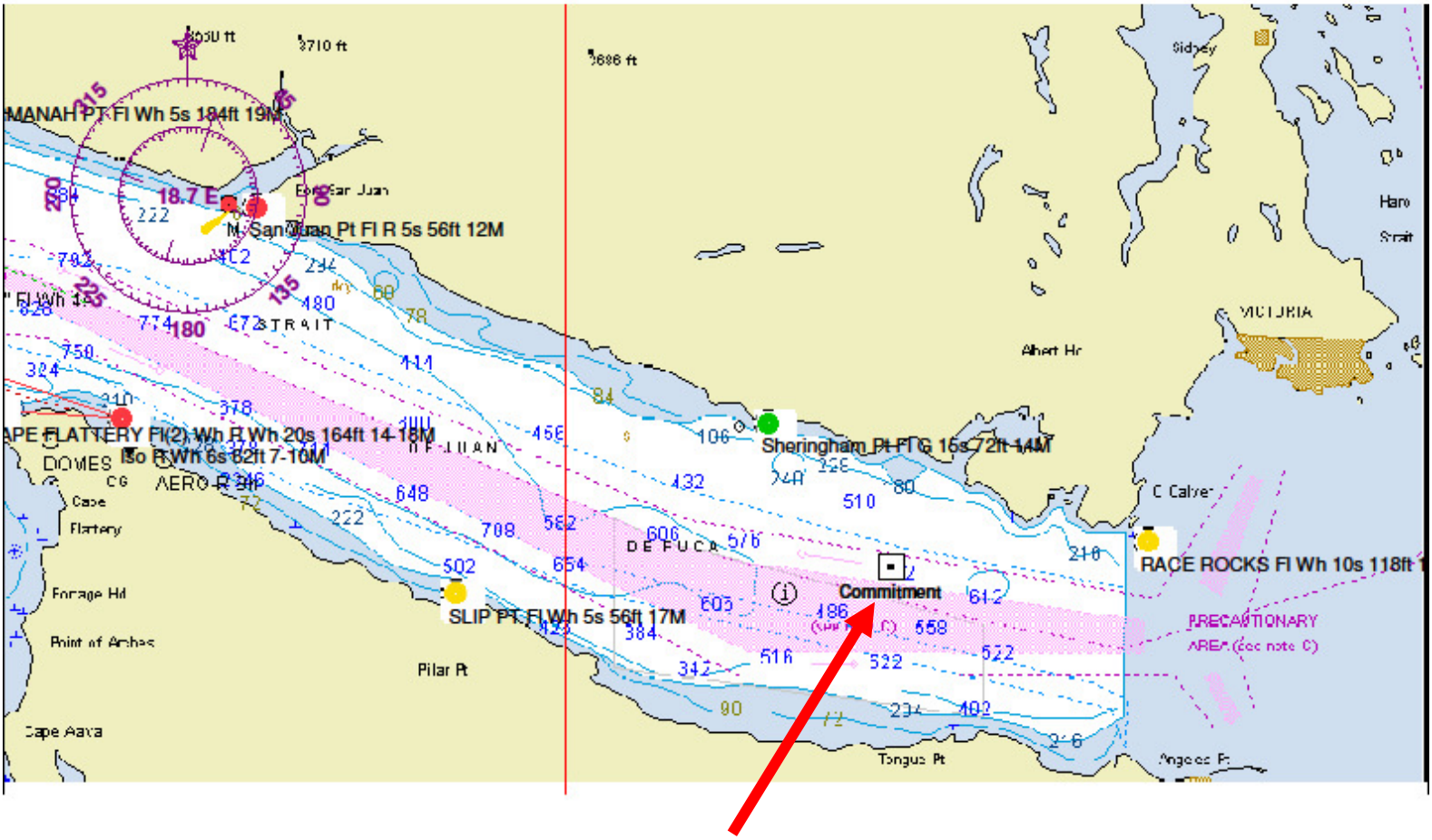
Causal Factor: The Tug received MGO contaminated with water from a bunker barge during fuel transfer.

Root Cause: Human Equipment Difficulty / Problem not anticipated

Corrective Action:

Operations and Engineering will discuss a risk assessment to evaluate the procedures and training to identify if improvements are needed to the transfer procedures and personnel awareness for this vessel classification.

NORTH AMERICA.GULF OF ALASKA. STRAIT OF JUAN DE FUCA TO KODIAK ISLAND - 1 : 1,884,608
(Passport World Charts - vector format) Chart #U531 - Depth Units:



Vessel Position at Time of Incident

DO NOT USE FOR NAVIGATION